TMDL Commenters
TMDLs Proposed September 30, 2003
Fenholloway

	Commenters
1	Louise Coulter, Ray Collins, Stephen Legge, Billy Comstock, Mark Massey, Jacquelyn Jackson, Lamar Stephens, Lewis Moody, Richard Jarvis, Sandra Roberts, Earle Greene, Vilma Colon, Vicki Schafer, Bill Pyle, William Martin, Jim Herrington, David Streit, Harrison Mitchell, Mike Cornelius, Tommy Johnson, Mike Nelson, Rollie Slade, Paula Carlton, Leo Gayle, John Kallschmidt, Valena Sturdivant, Ray Perry, Willie Powe, Sandy Hunter, Paul Bollermann, Cathy Mann, Jim Bassett, Kelly Russell, Brenda Carlton, Vicki Fletcher, Jerry Fletcher, Barbara Herndon, Ronnie Wright, Alan Stephenson, Citizens of Taylor County, November 20, 2003
2	Jessica Landman and Linda Young, Natural Resources Defense Council, 1200 New York Avenue, NW, Suite 400, Washington, DC 20005, November 24, 2003
3	Gary Weathers, 210 W. High Street, Perry, FL 32347, November 24, 2003
4	Howard Drew, Buckeye, One Buckeye Drive, Perry, FL 32348-7702, November 25, 2003
5	James R. Stewart, Florida Pulp & Paper Association, 301 S. Bronough Street, P.O. Box 1110, Tallahassee, FL 32302, December 11, 2003
6	Oertel, Fernandez, Cole & Bryant, P.A. 301 S. Bronough Street, P.O. Box 1110, Tallahassee, FL 32302,

Florida Fenholloway Comments
September 2003

Dioxin Related Comments & Resonses:

The presence or absence of dioxin in the effluent does not determine the status of impairment of

the river. Rather, the determination that the river is impaired is due to elevated concentrations in fish tissue above what would be expected if the ambient water quality criterion were being met. The information presented may be of interest to the NPDES program in making reasonable potential determinations but has no bearing on the decision process for the 303(d) listing determination.

Comment: There has been a gradual decline in the concentration of dioxin in fish tissue since 1987. Also, dioxin has not been detected in fish tissue since 1995 at a detection level of 1ppt.

> **Response**: Commenter is correct that there has been a decline in the trend of dioxin concentration over the years. This has culminated in the decision by the Florida Department of Health (DOH) removing the advisory for dioxin on the Fenholloway. However, the concentration of dioxin in fish tissue that would indicate an exceedence of the water quality criterion is significantly lower than that which would indicate an advisory is needed by DOH. Fish tissue in 2003 continues to reflect a concentration above the water quality criterion back-calculated fish tissue concentration and supports a 303(d) listing determination.

Comment: The fish collected in 2003 are inappropriate for use in 303(d) listing determinations because they do not reflect species and sizes typically consumed by people. Also, the fish are inappropriate in that they reflect a "worst-case" concentration due to size and age factors.

> **Response**: Fish collected at the three sites on the Fenholloway in 2003 reflect a trophic level 3 and 4 species at each site. Two of these species, the warmouth and white catfish, are likely to be consumed. The other species (longnose gar brown bullhead) cannot be ruled out as a possibly consumed species due to information from other areas of the Southeast that indicate these species is consumed by certain subpopulations. While the commenter believes these fish to be nonrepresentative due to size, the data presented are based on composite sample of numerous fish over a wide range of sizes, especially with respect to the gar samples. It can be expected that the concentrations in the larger fish are somewhat attenuated by the concentrations in the smaller fish and would, therefore, produce a final concentration that is to be expected on average within fish of all sizes in the composite. As to age, the commenter has indicated that this is an estimation by the sampling/analysis crew and not based on scale rings or otolyth analysis. As stated previously, since the fish tissue concentrations exceed the water quality criterion back-calculated concentration, a 303(d) listing determination is supported by these data.
> Comment: Based on a Great Lakes Water Quality Initiative regulation and technical support document that describes how to determine the dissolved fraction of chemicals, the dissolved concentration of dioxin does not exceed the applicable water quality criterion and therefore, the Fenholloway is not impaired and should not be listed.

Response: Water quality criteria are typically compared to total or total recoverable concentrations, with the exception of aquatic toxicity of metals. Since the detection level for the water quality samples is approximately 100 times greater than the water quality criterion, it is uncertain that the water quality criterion is actually being attained. Also, the fish tissue concentration exceeds a water quality criterion back-calculated concentration and supports a

303(d) listing decision. The equation cited comes from the section of the regulation and technical support document for the determination of bioaccumulation factors in deriving site specific human health criteria and is not applicable to the listing determination.

> **Comment:** EPA Region 4 has previously allowed waterbodies to be removed from the 303(d) list for dioxin in North Carolina even though the water quality criterion and presumably the back-calculated fish tissue criterion is equal to that of Florida's and the fish advisory trigger is higher than either of these.

Response: EPA Region 4 has requested the data for the waterbodies in North Carolina that are cited by the commenter. Based on review of these data, EPA will be initiating discussions with the State of North Carolina to ensure consistency with the decision made here with respect to the Fenholloway River.

> **Comment:** Because of the differences in water quality criterion for dioxin in all of the Region 4 States, if the Fenholloway River were located in another State, EPA would not place the River on the 303(d) list.

Response: Commenter is correct. However, the Fenholloway River is located in Florida and the approved water quality criterion for this jurisdiction must be used.

> **Comment:** Comparing the back-calculated fish tissue criterion to other waters across the Nation and in Florida, EPA would be required to list virtually every waterbody for dioxin, even prestine waters.

Response: As noted previously, water quality criterion differ between States, therefore, the back- calculated fish tissue criterion will not be equal between all States. This would result in listings in some States and not others. The commenter has also assessed the need for listing on using ½ the detection limit of a given test if a non-detect was reported. EPA Region 4 typically treats non-detects as zero unless other evidence indicates that a chemical constituent may be present at some level. In the data cited by the commenter, Region 4 would treat the non-detects as zero because of a lack of detection of other congeners and lack of sources, historic or current. With respect to some of the Florida data presented, Region 4 is currently discussing with the State of Florida listing some of the cited waterbodies due to the detection of dioxin in fish samples. Region 4 will continue with these discussions as waterbodies come up for review under Florida's rotating basin schedule.

> **Comment:** Relatively speaking, dioxin exposure from consumption of fish from the Fenholloway River represents an insignificant fraction of the overall exposure to dioxin from dietary sources. Reducing the levels in fish from the Fenholloway River will not result in any appreciable public health benefit and resources should be dedicated to lowering exposure from other dietary sources.

Response: EPA is working through other mechanisms, such as the Clean Air Act, to reduce the generation and discharge of dioxin into the environment. Some dietary sources are under the regulatory control of other agencies, such as the Food and Drug Administration and the U.S.

Department of Agriculture, which have their own risk assessment procedures and trigger levels for commercial products. Even with all this, EPA is legally bound to uphold the water quality standards and restore waters to their designated uses. As such, based on the data presented, the Fenholloway River is impaired for dioxin due to levels in fish tissue and as such, will remain on the 303(d) list

Commenter #1

Comment**SAME COMMENTS FROM MULTIPLE COMMENTERS:**
Thank you for your recent notice asking for public comments on EPA's proposed TMDLs (Total Maximum Daily Loads) for the Fenholloway River in Taylor County, Florida.

EPA's proposal to address dissolved oxygen, BOD, total coliform, and un-ionized ammonia issues in the Fenholloway by the creation of TMDLs is appropriate. The adoption of science-based TMDLs for these pollutants will support water quality improvements.

EPA's proposal to include dioxin and nutrients as pollutants to be addressed with Fenholloway TMDLs is not supportable. The Fenholloway dioxin issue has been resolved. The only industrial discharger to the river (Buckeye Florida) has substituted chlorine dioxide for elemental chlorine at its cellulose plant. As a result, the facility's treated wastewater is non-detect for dioxin.

In September the Florida Department of Health ended its 13-year fish advisory on the Fenholloway after extensive testing verified the fish were safe for consumption. This repealed advisory was the basis of EPA's proposed dioxin TMDL. Additionally, the Florida Department of Environmental protection recommends removing dioxin from the Fenholloway TMDL list.

There is no data to support creating a Fenholloway TMDL for nutrients. In fact, the Fenholloway Nutrient Study published by EPA February 18, 2000 observed "no phytoplankton blooms" during four sampling periods. The same EPA study concluded, "chlorophyl levels were low."
Creating Fenholloway TMDLs for dioxin and nutrients will distract industry and regulatory agencies from addressing real water quality issues and siphon resources away from solving problems.

We urge EPA to follow the Florida rule for identifying "impaired water" and remove dioxin and nutrients from the TMDL list.

Response: Nutrients - EPA is not finalizing the nutrient TMDL at this time.

Dioxin - See Above.

Commenter #2

Comment
The DO target parameter listed in the TMDL is set on two alternative bases: either the existing

Florida DO standard of 5.0 mg/l, or the Econfina 'natural background' level, which is found to be variable, ranging from .9 mg/l minimum, to average of 5.4 mg/l, to maximum of 8.7 mg/l.

At present there is no SSAC or revised DO WQS for the Econfina or the Fenholloway that would allow for a DO target that ever reaches below 5.0 mg/l. Until such a SSAC is adopted the state's applicable WQS must be used as the target value. As EPA is well aware, we believe that a SSAC might ultimately turn out to be appropriate in the context of a global resolution of environmental concerns for the Fenholloway in the context of the Initiative; until that is resolved, however, we must oppose a DO TMDL with any target level other than 5.0 mg/l.

If and when an SSAC is established, it will need to include spikes of higher DO and will not be appropriate if it focuses exclusively on low DO as the target value. Seasonal shifts in natural background levels in the Econfina would need to be attained by the Fenholloway if the model of the relatively healthy Econfina system is going to be attained in the Fenholloway.

> **Response:** All of these factors will be considered as part of the water quailty standards adoption and approval process and will not be addressed as part of this TMDL. This TMDL is currently set for the applicable water quality standard.

Comment

Nutrient target level: In the context of the Fenholloway Initiative, NRDC and the Clean Water Network have repeatedly expressed doubts as to whether the record is adequate to support the EPA's claim that the Econfina River's nutrient levels really do reflect background levels. Silviculture and other land-disturbing activities in the Econfina watershed have led to increases in nutrient levels above background. While the River may still generally test well as a healthy aquatic ecosystem, this may be because its assimilative capacity has been taxed but not yet exceeded.

Therefore, we consider the establishment of a target level for the Fenholloway that is *25% above the levels of nutrients in the Econfina* to be non-conservative. A level equal to the Econfina's current level of nutrient enrichment *already* encroaches above natural background levels. No evidence has been presented by EPA or DEP to support the conjecture that an *additional* 25% increase above the nutrient levels present in the Econfina could be tolerated in the Fenholloway River.

Indeed, from what we know of over-enriched systems, there is a significant reservoir of nitrogen and phosphorous present in the sediments and flora in the Fenholloway system. In the EPA own study you noted that: "Sediment nutrient flux studies indicated that the sediments in the Fenholloway estuarine zone were releasing both nitrogen and phosphorous to the overlying water column. In contrast, there was a net flux from the water column to the sediments in the Econfina Estuary." Thus, reducing *ongoing* nutrient loads to attempt to meet a target *below the levels present in the Econfina* likely will be necessary in order to allow the excess nutrients in the system eventually to biodegrade down to levels equal to the Econfina's current levels. The 25 percent above-Econfina levels proposed in the TMDL are unacceptable and do not provide a Margin of Safety as mandated by the CWA.

Response: EPA is not finalizing the nutrient TMDL at this time.

Comment

Establishment of "rolling annual average basis" compliance measures for nutrients is inadequate to protect this ecosystem: Algal blooms, die-offs and anoxic zones, impacting seagrasses and other aquatic life, occur on a seasonal basis, or on even narrower time frames. Consider, for example, Dr. Livingston's detailed analysis of the impacts of the discharge from the Georgia-pacific pul mill in Palataka, Florida. This report documents a sequential distribution of bloom species that occurred in the St. Johns River: *Anabaena spp.* And a variety of other species were observed from April to June, 2002; In July, blooms of the blue green species *Lyngbya cf contorta* and *Anabaena spirodes* were noted in the River; In August the *Anabaena* was joined by *Actinocyclus normanii*. In September, the river was 'packed with massive numbers of blue green alga, *Mycrocystics aeruginosa,* an HAB species (although the *Lyngba cf contorta* also continued in September.) The report found that "Bloom sequences were seasonally organized with peaks of various bloom species showing distinct time-oriented bloom outbreaks.

This report also documents fluctuations in mean concentrations of nitrogen and phosphorous as well as ammonia during the summer months. As you know, the in-stream concentrations of nutrients can dip during blooms only to rise again when the die-off occurs. EPA must not allow this phenomenon to be used to mask ecosystem imbalances by measuring annual average in-stream levels of nutrients.

Annual averages, particularly when measured as in stream concentrations, could easily mask the likely potential harms to the ecosystem of excess nutrient loadings from point and nonpoint sources. Only be restrictions on **loadings** - - (not permissive measures of in-stream concentrations) during the growing season - will be restored and maintained.

Response: EPA is not finalizing the nutrient TMDL at this time.

Comment

Dioxin Target Level: We understand that the State of Florida has removed the dioxin fish consumption advisories for the Fenholloway River, allegedly on the basis of new fish tissue data. Despite repeated requests to see this data we have not been able to obtain it and therefore cannot assess its validity as a basis for lifting the restrictions. However, we have seen other fish tissue data collected in Florida downstream of other paper mills and have found numerous and highly significant deficiencies in the manner of fish sample collection and data analysis that indicated a likely significant underestimate in actual risk levels. Despite the data misapplications we identified, the levels of dioxin nevertheless exceeded EPA's recommended safe levels. If Florida 's exceptionally high fish consumption rates were factored in, the exceedences would still be more alarming.

Based on what is known about ongoing production methods at BKI and past discharges of dioxin from the facility (i.e., EPA's own high-volume sampling techniques, and the knowledge that nothing has changed in BKI production technologies or chemical usages since that sampling was done) dioxin levels in the facility's discharge still are cause for concern and we oppose the lifting of the fish advisory.

The fish consumption advisory-driven TMDL for the Fenholloway must remain in effect. It is based on the EPA WQC for Florida's waters (which the state does not recognize or acknowledge in its water quality-based permitting scheme since it was promulgated by the Federal government.) The EPA WLA of .014 ppq at the end of the pipe is appropriate; however, water column sampling is not enough. It needs to be backed up by fish tissue sampling that is properly designed and executed to determine with accuracy the exposure risks to highly exposed and vulnerable populations.

> **Response:** See Dioxin response above. EPA is finalizing the dioxin TMDL as proposed. The fish consumption advisory program was not the subject of the TMDL proposal.

Comment
Unionized Ammonia: A specific TMDL for unionized ammonia *that is pH dependent* must be established for the Fenholloway. Simply relying on ammonia levels necessary to meet DO standards in stream will not suffice, since unionized ammonia is a source of acute toxicity as well as nutrient over enrichment. An end of pipe limit for unionized ammonia for Buckeye, and a mixing zone prohibition, are both necessary to prevent acute toxicity.

> **Response:** EPA conservatively assumed a pH of 7.0 and a temperature of 30 degrees celcius, both conditions that overestimate the percent component of unionized ammonia within Ammonia. Under these conditions, the unionized ammonia percentage would reflect levels well below the water quality standard. At a lower pH and colder temperatures, which are expected in the Fenholloway, the concentration would be even lower.

Comment
Color and Whole Effluent Toxicity are absent improperly from the Impaired Waters List and the TMDLs: As the narrative of the TMDL makes clean, investigators and EPA were well aware of the potential water quality impairments associated with *color* discharges from the Buckeye facility, apart from the nutrients with which these color discharges are associated. As the draft document states, EPA set out to evaluate 'to what extent BOD, color and nutrient loads' would have to be reduced to revive the system. TMDL at p.16. The presence of excess color has been identified as a source of impairment for many years. Research conducted over the past decade by Skip Livingston has focused on the extent to which reductions attained thus far in color levels in the estuary have allowed for the recovery of the submerged aquatic vegetation that is necessary to meet Florida's narrative water quality criteria.

Research by Livingston and others, in this and other estuarine systems affected by pulp mill effluent, have found that nutrients alone cannot explain all the impacts on SAV health. His 1998 study found that light affects sea grass growth. But, in addition, contact experiments indicated that marsh runoff was not inhibitory to seagrass growth whereas pulp mill effluents in direct contact with T. tesudinum and S. filiforme had significant impacts on growth at relatively low effluent concentrations (1-2% mill effluents) approximating 18.1 to 45.1 color units.

Field transfer experiments showed that both sediment and water quality in inshore Fenholloway areas induces significant adverse effects on growth indices of all three species [of seagrasses

studied].

In other words, the effluent itself exhibited some toxic effects on the seagrasses.

Similarly, research by others on EPA's own staff has demonstrated that the lessening in color levels in mill effluent alone is not adequate to eliminate impacts on flora and fauna. This research strongly indicates whole effluent toxicity to flora and fauna, even at extremely low concentrations of mill effluent in the estuary.

The research of Michael Lewis of the EPA Gulf Breeze laboratory found that pulp mill effluent, apart from the high nutrient levels it contains, was both phytotoxic to submerged, rooted macrophytes at concentrations as low as 12% effluent, and phytostimulatory for algal growth. Moreover, this research found that testing of toxicity to algae, and not simply testing for nutrients or for animals used as a surrogate for plants, was necessary to evaluate whether effluent was causing harm in the receiving system. Dr. Lewis recommended that standard test methodologies, available since the early 1990s from EPA for both freshwater and estuarine algal species, be employed to evaluate whether water quality standards were being met.

Thus, the TMDL for the Fenholloway and estuary cannot simply establish numeric limits for nitrogen, phosphorous and ammonia in order to ensure that nutrient excesses are being controlled. EPA-approved algal toxicity tests, and monitoring of effluent impacts on rooted macrophytes, must be part of the suite of monitoring requirements and effluent limits to protect the Fenholloway River and estuary.

> **Response:** The Clean Water Act does not provide EPA the authority to establish TMDLs for impairments that are not identified and approved in the State's 303(d) list. At this time, EPA is not finalizing a TMDL for nutrients.

Comment
TSS: On the original 1998 Section 303(d) list, the Fenholloway River was listed as impaired for TSS. (WBID 3473B).

DEP de-listed the Fenholloway for the pollutant TSS. DEP claimed that there is no WQC for TSS, and erroneously then determined that mean that the Fenholloway was not impaired for related parameters.

The state elected to evaluate the Fenholloway for turbidity as a supposed surrogate for TSS, and found no violation of state turbidity standards.

In the first place, we question that finding. And in the second place, turbidity is not identical to TSS and is not an acceptable surrogate. EPA improperly accepted the state's de-listing for TSS.

It is well known that pulp mills generate massive quantities of suspended solids, and that their effluent exerts a significant COD impact not necessarily adequately addressed through BOD limits. For this reason, in promulgating the national effluent guidelines for pulp and paper manufacturing facilities, EPA noted that monitoring and limiting COD could be a very valuable

means for monitoring aquatic ecosystem effects such as those caused by high levels of pulp mill solids in the wastestream:

With regard to COD, the Agency notes that chronic sub-lethal aquatic toxicity has been found from wastewaters discharged by both bleached and unbleached **pulp** mills. Some evidence indicates that this toxicity is associated at least in part with families of non-chlorinated organic materials. Some of these materials are probably wood extractive constituents found in pulping liquors and are refractory or resistant to rapid biological degradation, and thus are not measurable by the five-day biochemical oxygen demand (BOD5) analytical method. Several studies indicate that as wastewater
COD is reduced, indices of these chronic toxicity effects also are reduced. In addition, final effluent COD loading is an appropriate measure of the performance of in-process and end-of-pipe technologies in reducing the mass of non-chlorinated pollutants found in wastewaters discharged by this industry. EPA also has found that COD is an appropriate parameter for use by mills for self- monitoring to evaluate the performance of spent pulping liquor spill prevention programs (BMPs),
as noted in Section V.A.6 below. The analytical method for this bulk parameter also is very reliable and affords significant savings in monitoring costs over analytical methods for individual pollutants.

COD rather than turbidity should be the surrogate parameter evaluated in the Fenholloway River and estuary, and these waters should be re-listed, and TMDLs established, to address this effluent
constituent.

> **Response:** The commentor is directing the comment towards EPA's acceptance of the TSS delisting request by the State of Florida. EPA's listing decision is not the subject of this proposed TMDL. As stated above, EPA does not have the authority to establish TMDLs for unlisted impairments.

Commenter #3

Comment
As a resident of Taylor County, I am very familiar with the issues regarding water quality in the Fenholloway River. I have observed a cooperative effort between Buckeye Florida, L.P. (The only industrial user of the river), state and federal agencies, and environmental groups result in substantial improvements to the river.

Buckeye has invested significant effort and money into process improvements, including the substitution of chlorine dioxide for elemental chlorine. This has resulted in Buckeye's treated wastewater being non-detect for dioxin. The Florida Department of Health has recently lifted its fish advisory on the Fenholloway after extensive testing showed the fish to be safe for consumption.

Given this situation, it seems inappropriate for the EPA to include dioxin as a pollutant to be addressed with the Fenholloway TMDL's. Including dioxin would divert attention and resources

from the more appropriate issues of dissolved oxygen, BOD, total coliform, and un-ionized ammonia. The same holds true for nutrients. Recent studies have found no phytoplankton blooms and low levels of chlorophyll a, including nutrients, as with dioxin, would cause unnecessary cost in additional study, monitoring, and treatment technology.

Response: See Dioxin related responses above.

Commenter #4

Comment
General Comments: The public notice in question begins with the following statement of requirement: "Section 303(d)(1)(C) of the Clean Water Act (CWA), 33 U.S.C. 1313(d)(1)(C), and the U.S Environmental Protection Agency's implementing regulation, 40 CFR 130.7(c)(1), require
the establishment of Total Maximum Daily Loads (TMDLs) for waters identified by states as not meeting water quality standards under authority of 303(d)(1)(A) of the CWA. Each of these TMDLs is to be established at a level necessary to implement applicable water quality standards with seasonal variations and a margin of safety, accounting for lack of knowledge concerning the relationship between the pollutant loading and water quality."

Buckeye would like to first comment on two of the pollutants that are being addressed by this initiative as they relate to the stated requirement:

1. Nutrients for the Fenholloway River segment at the Mouth (WBID-3473A) and for the Fenholloway River segment below Pulp Mill (WBID-347B).

The basis for listing these segments of the Fenholloway River in Florida's 1998 303(d) as impaired due to nutrients is not clear. However, subsequent to the development of this list, on April 26, 2001, Florida adopted the Impaired Waters Rule (IWR) (Chapter 62-303, Florida Administrative Code) which "...establishes specific protocols and thresholds for assessing water bodies, in addition to data sufficiency and data quality requirements." Florida's water quality standards include narrative nutrient criteria, which states that "In no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of aquatic flora and fauna." The IWR prescribes a method and numerical criteria for identifying waters that exceed the narrative nutrient criteria. The IWR methodology to determine whether " imbalance" existed is as follows:

For Streams - a) algal mats are present in sufficient quantities to pose a nuisance or hinder reproduction of a threatened or endangered species or, b) annual mean chlorophyll-a concentration are greater than 20 ug/l or if data indicate annual mean chlorophyll-a values have increased by more than 50% over historical values for at least two consecutive years.

For Estuaries - annual mean chlorophyll-a for any year is greater than 11 ug/l or if data indicate annual mean chlorophyll-a values have increased by more than 50% over historical values for at least two consecutive years.

On October 1, 2002, the Florida Department of Environmental Protection (FDEP) submitted its 2002 update to its Section 303(d) list for Group One watersheds to the Environmental Protection Agency for review and subsequently updated it on May 12, 2003.

Nutrients were not included on Florida's October 1, 2002 submission or its subsequent May 12, 2003 update for the Fenholloway because there was no evidence that the nutrient criteria under the IWR was being exceeded.

It is Buckeye's contention that the available evidence clearly demonstrates that the Fenholloway is not being impaired by nutrients.

At the request of the U.S. EPA Region 4 Water Management Division (WMD), the Science and Ecosystem Support Division (SESD) conducted a water quality study of the Fenholloway River and estuary during the period December 1998 to September 1999. The stated objective of this study "...was to collect data that will assist the WMD in establishing a basis for permit limits on the Buckeye effluent that will better protect the flora and faun of the Fenholloway Rover an near-shore environment." Some of the specific questions this study was to answer were:

a) "Assess whether there are nuisance phytoplankton blooms in the Fenholloway near-shore area."
b) "Assess nutrient loading contributions from the point sources, the rivers, and the sediments."

In its February 18, 2000 report, SESD made the following findings that relate specifically to the IWR nutrient criteria and the potential for nutrient impairment:

a) "No phytoplankton blooms were observed during the four sampling periods. Field measurements for pH and dissolved oxygen supported this observation."
b) "Chlorophyll-a levels were low in both rivers and estuaries. The maximum chlorophyll-a concentration measured during the four sampling periods was 10 ug/l in the Fenholloway estuary in June."

The data from this EPA study shows that the Fenholloway River and estuary do not trigger the nutrient impairment criteria identified under the Florida IWR. This study does not support any other nutrient-related impairment basis.

Additionally, Dr. Robert J. Livingston of Environmental Planning & Analysis, Inc., who has studied the Fenholloway River and estuary for over 30 years, stated in his July 2002 report to Buckeye, entitled "Effects of Color Reduction on the Fenholloway River-Bay System" that " Chlorophyll-a concentrations in both the Econfina and Fenholloway systems were generally low, and were not indicative of phytoplankton blooms or the effects of the blooms on both qualitative and quantitative aspects of the phytoplankton assemblages."

Furthermore, in 2001, EPA Region 4 embarked on a dynamic modeling effort for the Fenholloway River and estuary. This effort, which is described in Section 5.3 of the TMDL

Technical Document entitled "Total Maximum Daily Load (TMDL) in the Fenholloway River, Bevins/Boggy Creek, Econfina Basin, Taylor and Lafayette Counties, Florida," was completed in 2003 and can be used to predict ecological response to varying pollutant loads. On July 1, 2003, Mr. James Greenfield of EPA Region 4, reported a summary of model results, showing the mean area wide estuarine chlorophyll-a concentration to be 4.5 ug/l. Thus, the model predicts no impairment based on existing levels of nutrients and the methodology established in the IWR.

EPA lacks any basis to conclude that nutrients should be listed as an impairment pollutant on the 303(d) list. Buckeye acknowledges that Florida is undergoing a rule development process in order to develop numeric criteria for nutrients. This TMDL development initiative should not inadvertently replace Florida's existing rulemaking process by establishing a numeric standard prior to one being adopted. Considering that the existing legally valid narrative standard and the IWR methodology and criteria are straightforward in what waters should be listed on the 303(d) list at this time, the establishment of a numerical standard is not justified and would be arbitrary and without sufficient basis.

Response: EPA is not finalizing a TMDL for nutrients at this time.

Comment

Dioxin for the Fenholloway River segment at the Mouth (WBID-3473A). This section of the Fenholloway River was listed in Florida's 1998 303(d) as impaired due to dioxin because of the existence of a Fish Consumption Advisory issued by the Florida Department of Health in 1990. Based on more recent fish tissue data, Florida removed dioxin as an impairment parameter and this segment of the Fenholloway River from their 2002 303(d). On June 11, 2003, EPA rejected the de- listing of dioxin from the Florida 303(d) list stating "Insufficient data to conclude fish tissue dioxin concentrations are below human health consumption levels. Insufficient evidence of source control." Subsequently, the Florida Department of Health Secretary John O. Agwunobi, M.S., M.B.A. announced September 30, 2003 that the advisory banning consumption of fish from the Fenholloway River due to dioxin be lifted, effective immediately. This decision was based on fish tissue analyses that were recently obtained from an extensive sampling effort.

Buckeye has also implemented significant process modifications over the past 14 years that address the potential of discharging dioxin - EPA's second basis for rejecting the de-listing of dioxin. This has included capital expenditures in excess of $55 million for the substitution of chlorine dioxide for elemental chlorine. Buckeye's final effluent quality is well below all EPA effluent guidelines that apply to its business subcategory (Dissolving Kraft) and meets the final effluent guidelines applicable to the bleached paper grade subcategory for dioxin and absorbable organic halides (AOX). Buckeye represents the best dissolving pulp mill effluent quality in the United States. As such, buckeye contends there is no remaining basis for listing dioxin as an impairment pollutant on the 303(d) list.

Response: See Dioxin related responses above.

Comment

Specific Comments Related to the Technical Document entitled "Total Maximum Daily Load (TMDL) in the Fenholloway River, Bevins/Boggy Creek, Econfina Basin, Taylor and

Lafayette Counties, Florida, Dated September 2003

Summary Sheet, Major NPDES Discharges to surface waters, Paragraph 10
The permit number for Buckeye is incorrect. It should be FL0000876.

Response: Correction made.

Comment
Section 3 - Watershed Description, Third Paragraph, page 12
The last sentence of this paragraph states, "In 1997, the designation of the Fenholloway River was changed to Class III...based on the findings of the Use Attainability Analysis completed in December 1994 by the Florida Department of Environmental Protection." It should be noted that the UAA concluded that the only technically feasible means to achieve water quality standards in WBID- 3473B was to relocate the effluent from the pulp mill from this segment downstream to WBID- 34473A.

Response: Comment noted.

Comment
Section 3 - Watershed description, Fourth Paragraph, page 12
The first sentence states "...there has been significant concern over...color, dissolved oxygen, and nutrient impairment..." Considering the legal use of the word "impairment" and the data presented that the Fenholloway does not meet the criteria for "impairment" for nutrients, this word should be struck from this sentence. Buckeye acknowledges there has been concern and attention to color, dissolved oxygen and nutrients as indicated by this paragraph. However, the results of much work and study indicates that color, while a source of impairment in the past is now resolved, and nutrients, while an area of concern, has not resulted in any impairment. On the other hand, dissolved oxygen has conclusively been demonstrated as an area of impairment for WBID-3473B, but not WBID-3473A.

Response: The word "impairment" was removed.

Comment
Section 4.2 - Nutrients, First Paragraph, Page 13 and 14
This section again refers to a nutrient-related "observed impairment" in the Fenholloway River system. Again, as discussed previously, there is no scientific evidence in support of this statement. As such, any nutrient-related impairment references should be removed.

The proposal to establish a nutrient target that is based upon an allowable 25% increase in the mean 'background' concentration is arbitrary and represents de facto rulemaking since the proposed numeric criteria is different than the criteria contained in Florida's IWR. As stated previously, the Fenholloway River does not trigger the criteria in the IWR for nutrient " impairment." The need for a nutrient criteria that is different than that contained in Florida's IWR has not been justified.

Response: Discussion of nutrients was removed because EPA is not finalizing a nutrient

TMDL at this time.

Comment
Section 4.4 - Dioxin, First paragraph, Page 14
This may be EPA's water quality standard for dioxin. However, as stated previously, there is clear data to show that dioxin should not be included as an impairment parameter and, as such, a TMDL is not needed.

Response: See responses to Dioxin comments above.

Comment
Section 5.1 - Water Quality Assessment and Deviation from Target, Page 15
The last sentence of this paragraph refers to a list of reports that are not listed as indicated.

Response: The reference to these reports was unnecessary and removed.

Comment
Section 5.3 - Analytical Approach, Pages 17 and 18
The proposed approach of relying on certain treatment approaches and the establishment of certain water quality relief mechanisms (such as site-specific alternative criteria) as a basis for the establishment of dissolved oxygen TMDL is unprecedented and well beyond the authority provided by the TMDL regulations. In addition, some of the treatment options (and the subsequent wastewater quality results) that are being considered are theoretical and have not been verified as technically viable technologies. Furthermore, the actual implementation of the treatment technologies in question and the requisite water quality relief mechanism(s) would be subject to public review and intervention. Since the results and availability of these prerequisites are not guaranteed, it is not appropriate to rely on them as a basis for a TMDL. The EPA must not rely on the treatment technologies and the water quality relief mechanisms in questions in establishing an appropriate TMDL.

Response: The commentor is correct that this information is unnecessary for the establishment of the TMDL. However, EPA felt that it provided a broader picture of the potential approaches to addressing the dissolved oxygen impairment. The TMDL was calculated and set to the water quality standard as required by the Clean Water Act.

Comment
There is an incorrect reference to Table 3 providing predicted DO percentile ranges, when in fact it is Table 4. In this table, the theoretical DO percentile range for Wetlands is shown next to the Econfina.

Response: Corrected.

Comment

Later in the document, the theoretical BOD result is shown as the proposed waste load allocation (WLA). We are asking the following questions based on how this information is presented:

Is the BOD in the modeling alternatives 5-day BOD or is it ultimate BOD?

Response: 5-day BOD

Comment
Is the BOD in the modeling alternative and the proposed WLA total BOD or is it carbonaceous BOD?

Response: Carbonaceous BOD

Comment
Historically in order to provide reasonable assurance that permit limits will meet water quality standards, an analysis is done using 7Q10 flows to determine the maximum pollutant discharge allowed. The approach for the DO/BOD WLA EPA is using in this document instead establishes a DO profile and "box & whisker" range. The basic premise appears to be the presumption that if the expected profile and range matches the 25^{th} to 75^{th} percentile of the natural stream [proposed site specific alternative criteria (SSAC)], that it would be expected to meet the water quality standard. Two questions related to this (1) Will compliance with the standard be evaluated on the same basis? In other words, a statistical profile will be required to determine whether water quality standards are being met. (2) Is it possible to establish a SSAC based on a profile, rather than a minimum, and to provide a dynamic modeling prediction profile that matches the median 50 percentile range as a valid demonstration of reasonable assurance for a permit?

Response: Compliance with the site specific criteria will be determined based on the manner in which the criteria is adopted and approved. Since we don't at this time have a site specific criteria, EPA is unable to answer the question. 4. On Table 4, the four treatment alternatives are compared to data collected in the Econfina River. However, it is not clear where and how the Econfina percentile distribution is calculated. Is the distribution based on a spatially averaged data or at a discreet location? Also, what is the temperature range of these data? Therefore, it is not clear whether the calculated distributions for the alternative evaluations of the Fenholloway River are comparable to the Econfina distribution shown on Table 4. In response to #2, Econfina data is based on spatially average data from two sampling locations. The temperature range encompasses the full year and are similar to the Fenholloway temperature below Spring Creek.

Comment
The effluent BOD concentrations for the four alternatives range from 3.5 mg/L to 20 mg/L. Typically, a lower effluent BOD concentration is more refractive than a higher effluent BOD; therefore the oxidation rates may be lower. It appears that the oxidation rate of BOD for each alternative is constant. Therefore, a sensitivity analysis to the BOD oxidation rate is warranted.

Response: For the Fenholloway River the instream BOD decay rate is more dependent on

the interaction of the effluent / stream flow with the river bottom and sides, with the river acting like a trickling filter. Rates were measured at 0.3/day. Also if the oxidation rates are lower then the ultimate to five day ratio will be higher.

Comment

The calculated DO results shown on Table 4 appear to be inconsistent with the level of treatment. For example, at the 50th percentile concentration the delta DO from Ptech to WWT is 1.2 mg/L with a delta BOD effluent concentration of 4 mg/L and delta ammonia concentration of 0.7 mg/L. However, between WWT and Wetlands the delta BOD and ammonia concentrations are only 1.5 mg/L and 0.3 mg/L, respectively resulting in a delta DO of 1.0 mg/L. The cause for the non-linear relationship should be documented.

Response: The ammonia loads had minimal impact on the stream D.O. concentrations, with no discernable difference between an ammonia of 0.2 mg/l or 1 mg/l. The 1 mg/l ammonia was established to meet unionized ammonia criteria.

Comment

The proposed WLA for ammonia appears wrong for two reasons. First, considering the oxygen demand caused by ammonia, it seems surprising that EPA raised ammonia from 0.2 mg/l to 1.0 mg/l and yet still expects the predicted DO profile to match the Econfina. Secondly, the existing limits for Buckeye effluent pH is 6 to 8 s.u. and there are no stated temperature limits. Using the allowed maximum pH of 8, and the historical summer temperature of 92 degrees Fahrenheit, the ammonia WLA will need to be 0.18 mg/l - N to meet the 0.02 mg/l un-ionized ammonia water quality standard. It is noted that under Table 10 a pH of 7 and a temperature of 30 degrees C is assumed. What is the basis for this assumption? Also, using this assumption, the WLA would be 2.1 mg/l - N ammonia, rather than 1 mg/l.

Response: See response to number 6. The pH used was 7.5, final TMDL corrected. Based on the historical monitoring data a temperature of 30 degrees C and pH of 7.5 was a conservative assumption. Also the effluent is monitored for chronic toxicity, if unionized ammonia was or will be an issue, this chronic toxicity monitoring will also control the potential problem.

Comment

Section 5.3 - Analytical Approach, Pages 19 through 21

Again, as stated earlier, nutrients should not be listed as an impairment parameter. Furthermore, the selection of a nutrient target based on "...no more (than) 25% increase over natural expected nutrients values based on the Econfina reference site" is not justified. The methodology legally established in the IWR should be followed.

Table 5 appears to be scientifically and technically incorrect. Using the 50th percentile column, how can a "No Load" TN of 0.15 produce a "No Load" Chla of 3.9, while the reference stream TN of 0.34 produce a Chla of 2.0? From the previously referenced EPA Region 4 SESD report, it is clear that both the Fenholloway and the Econfina are nitrogen limited. The responses should

be similar or there is something wrong with the model.

In Table 6 the "No Load" profile does not match the "No Load" profile for Table 5. Which is correct?

Also, the "No Load" scenario depicted on Table 6 shows Chla concentrations ranging from 2.0 to 6.8 ug/L (25^{th} to 90^{th} percentile). The total phosphorous and total nitrogen concentrations shown on Tables 7 and 8 show virtually no change at the various percentiles. The small amount of nutrient variability with time (presumably) is questionable. What is controlling the nutrient concentration? Is it the non-point source loadings? If so, how are they assigned?

The calibration diagrams shown on Figure 6 show comparisons with Chla and organic nitrogen concentrations. However, the critical parameters for a eutrophication model analysis is the behavior of the inorganic nutrients (DIN, DIP) which are not shown. It is also difficult to "judge " the validity of the model with only the temporal plots of data versus model. Comparisons of the probability distributions for both data and model are also recommended. Again, sensitivity analyses are recommended for key model coefficients to identify the critical parameters and the model's strengths and weaknesses.

Examination of Figure 6 shows variations between model and data which may be expected (no model is perfect). However, Tables 6 through 8 show little variation between treatment alternatives. For example, the 50^{th} percentile concentrations range from 3.4 to 4.5 ug/L for Chla; from 0.020 to 0.026 mg/L for total phosphorous; and from 0.146 to 0.175 mg/L for total nitrogen. Is the model accuracy at a level to be able to discriminate these differences in treatment alternatives and more importantly is the model defensible as a tool for making engineering alternative decisions? It does not appear that the model validity has been sufficiently demonstrated to discriminate between the proposed alternatives.

Response: EPA is not finalizing a TMDL for nutrients at this time.

Comment

Section 5.4.1 - Determination of TMDL, WLAs & Las, Pages 22 and 23 What is the database from which the "...annual average background flow of 20 million gallons per day (mpg)" was derived? Does using the annual average flow for both the Buckeye discharge flow and the background provide reasonable assurance that the water quality standards will be achieved? How will compliance with this type of standard be measured?

Response: The annual natural background load allocation is based on a discharge flow of 43 mgd and an annual river flow of 20 mgd, the measured gaged flow minus the Buckeye Florida discharge flow. TMDLs can not allocate flow, so the compliance for the WQS, if this alternative is implemented will be meeting the DO standard of 5 mg/l.

Comment

Why in the second paragraph and Table 9 does the EPA chose a WLA of 2 mg/l for BOD5 and add oxygen to meet the 5 mg/l, when a no load criterion would seem to be appropriate? It appears that in order to achieve and maintain water quality criterion, no BOD5 can be discharged

at the present location.

Response: A background BOD5 value of 2 mg/l was assigned, this is equivalent to a no increase load over background. Zero BOD5 is not achievable, all water (excepted distilled water) naturally has some background BOD5 concentration and 2 mg/l is a normal assumption.

Comment
There is an error in Table 9. It is impossible to have more ammonia than TN, since ammonia is a component of TN.

Response: EPA is not finalizing a TMDL for nutrients at this time and nitrogen value removed.

Comment
What is the technical basis for the TN and TP WLA & LA in Table 9 versus Table 10? Since these parameters have no impact on DO, they should not be different in the two tables. Why the difference?

Response: EPA is not finalizing a TMDL for nutrients at this time.

Comment
Is the ammonia WLA in Table 10 and 11 (Section 5.4.2 Waste Load Allocations), in units of ammonia or ammonia as nitrogen?

Response: ammonia as nitrogen

Comment
Section 5.4 - Margin of Safety, Page 23 and 24
Note that there is a numbering error with this section. It should be 5.4.4. Considering that the projected wetland alternative that the WLA is based on is unproven and beyond the range of reliable science and engineering (there are no similar applications achieving anything close to these projected results) and the fact that the concept to attempt to achieve these results will cost tens of millions of dollars, it seems the approach on decay rates should be liberal rather than conservative. As stated previously, it is not appropriate to rely on unproven technology as a basis for a TMDL.

Response: The WLA is not based on a treatment alternative, but the allocation needed to achieve water quailty standards, including a potential site specific criteria. The decay rates relevant to this margin of safety are those applied to expected in-stream decay rates. As such, these do not consider treatment alternatives, but loading to the stream.

Comment
Section 6 - Dioxin TMDLs, Page 24, As stated previously, it is Buckeye's position that based on the methodology established by the IWR, the Fenholloway should not be listed for dioxin. Given this, if it were established that it was impaired due to dioxin, why is no allowance made

for dilution? The annual average background flow and discharge flows are proposed to establish WLA and LA for BOD5, ammonia, TN, and TP. Why would the WLA be different for dioxin? Under Section 6.1.3, the document states that "...using the human health criteria with no dilution flow allowed" is the margin of safety. This is inappropriate, since the human health criteria in itself has significant margins of safety. Is the parameter "Dioxin" in Table 12, of Section 6.1.2., 2,3,7,8 TCDD or some Toxic Equivalent measurement? Please define.

Response: See response to Dioxin related comments above.

Commenter #5

Comment

General Comments: The formal process of listing impaired waters, which have been adopted by Florida through its legislature, Governor and the Department, to list impaired waterbodies in Florida was properly developed after several years of workshops, hearings, and consulting every stakeholder, including the EPA. In fact, Kevin Summers, a Branch Chief of Coastal Ecology in EPA's Division of NHEERL, served on the Department's Technical Advisory committee for the development of the rule. The TMDL listing rule was modified at the last minute at the last hearing before the Florida Environmental Regulation Commission (ERC) specifically to address EPA concerns. The public and the regulated community were lead to believe the Florida rule was fully supported by EPA otherwise it would never have provided the support and resources dedicated to the success of this regulation to the extent it did in effecting sound legislation followed by development of a fair and comprehensive impaired waters listing rule.

The proposed EPA TMDL action, which effectively and practically disregards Florida's carefully developed TMDL process, threatens the very underpinnings of Florida's program. Florida's program has been supported by all stakeholders including the public and groups such as the FPPAEA to insure a single, comprehensive approach to address the problem of waters not meeting standards, i.e., impairment. If EPA is embarking on a program, which ignores Florida's standards and substitutes its own, which is based on no cited regulation, then the public will see no need for Florida to duplicate that program at great cost to its citizens. In addition, ultimately the delegation of the NPDES permit system to Florida is threatened since DEP cannot take actions in permits prohibited or not authorized by the legislature. If a water does not meet the adopted criteria for listing in FAC Rule 62-303, it may not be considered as verified impaired. It is prohibited by statute from taking any regulatory action based upon the old 303(d) list, other than further evaluation.

The FPPAEA has supported the approach of the State of Florida in adopting Chapter 62-303, F.A.C., referred to as the Impaired Waters Rule or the IWR. Fundamental precepts in the IWR, including the use of the binomial hypothesis test to analyze available data, the use of preliminary and verified lists, and the rotating basin approach, are consistent with the recommendations of the National Research Council in its report titled Assessing the TMDL Approach to Water Quality Management (National Research Council 2001) (hereinafter, the "NRC Report"). The NRC report, as well as the approach taken by Florida in the IWR, is calculated to maximize the certainty of decision and to achieve adaptive implementation of water quality standards.

Response: EPA was requested comments on an Agency proposed TMDL, not a 303(d) listing action. This commentor is commenting on a different Clean Water Act process.

Comment

Specific Comments

FPPAEA has reviewed the comments prepared and submitted by Buckeye Florida. These comments are representative of the views of FPPAEA and its membership to the extent that EPA has not followed the proper process in properly establishing the TMDL and has taken an invalid scientific and technical approach to the establishment of TMDL limitations. In some instances, such as specifically represented by the presumptive establishment of numeric nutrient criteria, the EPA has disregarded and threatened the ongoing regulatory process in the State of Florida.

Response: EPA is not establishing a nutrient TMDL at this time.

Comment

Both the Florida Statute and Administrative Code explicitly exclude waters from being listed on the verified list if standards will be attained as a result of existing or proposed effluent limitations.

63-303.100(5) Pursuant to section 403.067, F.S., impaired waters shall not be listed on the verified list if reasonable assurance is provided that, as a result of existing or proposed technology-based effluent limitations and other pollution control programs under local, state, or federal authority, they will attain water quality standards in the future and reasonable progress towards attainment of water quality standards will be made by the time the next 303(d) list is scheduled to be submitted to EPA..

Since Buckeye is the most significant point source discharge and the City of Perry has proposed to withdraw the discharge and implement a land application program, the development of the TMDL is not required.

Response: This TMDL is establishing allocations for permitted discharges that allow for the Fenholloway River to meet water quality standards.

Comment

For emphasis, FPPAEA would like to reiterate the regulatory points made in the Buckeye letter with specific concern on impairment due to nutrients is not clear. However, subsequent to the development of this list, on April 26, 2001, Florida adopted the Impaired Waters Rule (IWR) (Chapter 62-303, Florida Administrative Code) which establishes specific parameters, protocols, and thresholds for assessing water bodies, in addition to data sufficiency and data quality requirements. Florida's water quality standards also include the use narrative nutrient criteria, which states that "...information indicating an imbalance in flora or fauna due to nutrient enrichment, including, but not limited to, algal blooms, excessive macrophyte growth, decrease in the distribution (either in density or areal coverage) of sea grasses or other

submerged aquatic vegetation, changes in algal species richness, and excessive diel oxygen swings..." The IWR prescribes a method and numerica criteria for identifying waters that exceed the narrative criteria. The IWR methodology to determine whether "imbalance" existed is as follows:

> For Streamsa) algal mats are present in sufficient quantities to pose a nuisance or hinder reproduction of a threatened or endangered species, or, b) annual mean chlorophyll-a concentration are greater than 20 ug/l or if data indicate annual mean
> Chlorophyll-a values have increased by more than 50% over historical values for at least two consecutive years.
>
> For Estuariesannual mean chlorophyll-a for any year is greater than 11ug/l or if data indicate annual mean chlorophyll-a values have increased by more than 50% over historical values for at least two consecutive years.

On October 1, 2002, the Florida Department of Environmental Protection (FDEP) submitted its 2002 update to its Section 303(d) list for Group One watersheds to the Environmental Protection Agency for review and subsequently updated it on May 12, 2003.

Nutrients <u>were not</u> included on Florida's October 1, 2002 submission or its subsequent May 12, 2003 update for the Fenholloway because there was no evidence that the nutrient criteria under the IWR was being exceeded.

Florida is currently engaged in a rule development process in order to develop numeric criteria for nutrients. This TMDL development initiative should not inadvertently replace Florida's existing rulemaking process by establishing a numeric standard prior to one being adopted. Considering the existing legally valid narrative standard and the IWR methodology and criteria are straightforward in what waters should be listed on the 303(d) list at this time, the establishment of a numerical standard is not justified and would be arbitrary and without sufficient basis.

Substantial studies have been performed which indicate the Fenholloway River segments are not imbalanced with regard to flora or fauna due to nutrients. It should not be listed without such a demonstration. The process utilized by the state should be followed, as discussed above.

Response: EPA is not establishing a nutrient TMDL at this time.

Comment

This section of the Fenholloway River was listed in Florida's 1998 303(d) as impaired due to dioxin because of the existence of a Fish Consumption Advisory issued by the Florida department of Health in 1990. Based on more recent fish tissue data, Florida removed dioxin as an impairment parameter and this segment of the Fenholloway from their 2002 303(d). On

June 11, 2003, EPA rejected the de-listing of dioxin from the Florida 303(d) list stating " Insufficient data to conclude fish tissue dioxin concentrations are below human health consumption levels. Insufficient evidence of source control." Subsequently, the Florida Department of Health Secretary John O. Agwunobi, M.D., M.B.A. announced September 30, 2003 that the advisory banning consumption of fish from the Fenholloway River due to dioxin be lifted, effective immediately. This decision was based on fish tissue analyses that were recently obtained from an extensive sampling effort.

EPA regulations, 40 CFR 130.7(6), require the Regional Administrator consider good cause for a state not listing a water as impaired. Good cause includes more recent or accurate data, more sophisticated modeling, changes in conditions, new control equipment or elimination of discharges. In this situation, new data is available demonstrating that the segments achieve standards. In addition, a risk assessment and modeling was performed for the Florida Department of Health showing no basis for a continuation of the fish consumption advisory. Buckeye also made substantial changes in its process and control equipment to eliminate the use of elemental chlorine, thus qualifying as new control equipment under the regulations. On several grounds the Regional Administrator should find good cause for not listing the Fenholloway as impaired for dioxin.

Response: See responses related to Dioxin above.

Commenter #6

Comment
A biological endpoint must be used to satisfy the narrative nutrient water quality standard which Florida had adopted and EPA has approved. The chlorophyll-a standard which FDEP has adopted in its Impaired Waters Rule (IWR), 20 ug/l for streams and 11 ug/l for estuaries should be the biological endpoint used by EPA in evaluation and establishment of a nutrient TMDL (if needed).

Response: EPA is not finalizing the nutrient TMDL at this time.

Comment
Prior to establishing a TMDL for nutrients, EPA first must establish the point at which the level of nutrients causess the waterbody to go from balance to imbalance. EPA has failed to establish that point in its proposed TMDL.

Response: EPA is not finalizing the nutrient TMDL at this time.

Comment
On June 11, 2003, EPA issued its Decision Document, in which it ignored FDEP's conclusion relative to nutrients and continued the listing based on some yet unclear criteria. EPA did not object to the chlorophyll-a standard in Florida's IWR and was provided the opportunity to do so by virtue of its membership on the Technical Advisory Committee during the development of the rule. EPA has therefore acknowledged and supported Florida's chlorophyll-a listing criteria as supportive of meeting Florida's water quality criteria for nutrients. Yet, the proposed TMDL

is based on an arbitrary numeric nutrient endpoint rather than a biological endpoint as required by the Florida water quality standards. As explained below, EPA's proposed TMDL for nutrients for WBID 3473A and WBID 3473B, is not supported by competent, substantial evidence of record. For these reasons, EPA's final order should use the valid and verified conventional biological endpoint of chlorophyll-a as specified in the Florida IWR to establish a TMDL for nutrients, if necessary

Response: EPA is not finalizing the nutrient TMDL at this time.

Comment

During the February 2, 2004 meeting between EPA Region 4 and Buckeye, EPA staff verbally indicated that they were using sea grass productivity as the primary basis for the proposed TMDL for nutrients. In 1999, the USEPA Region 4 Science and Ecosystem Support Division (SESD) found "Light is limiting to plant growth in the Fenholloway Estuary". There was no finding that nutrients were having any impact on sea grass. In response to Buckeyes December 22, 2003 Freedom of Information request for document supporting the proposed TMDL, EPA provided their, "EPA Region 4 Fenholloway and Estuary: Hydrodynamic and Water Quality Modeling Report" dated May 2003 and the supporting model. Sea grass was not used for a nutrient endpoint in this report. No data has been provided that indicates any basis for using sea grass growth to support the proposed TMDL. The establishment of a TMDL with out supporting data is certainly arbitrary and capricious.

Response: EPA is not finalizing the nutrient TMDL at this time.

Comment

As explained in Buckeye's November 25, 2003 public comments to EPA on the proposed TMDL for nutrients, FDEP examined this parameter by applying the chlorophyll-a based standard in the IWR. This standard has been acknowledged by EPA. The use of chlorophyll-a as the biological endpoint for nutrients is clearly the most conventional and scientifically acceptable basis available for estuaries. EPA Region 4 Jim Greenfield's 2003 predictive modeling report provides an established and verified analysis using chlorophyll-a as a biological endpoint to predict impairment according to the Florida IWR. The development of a nutrient TMDL should use the EPA Region 4 established chlorophyll-a based tools that were developed in cooperation with Buckeye and FDEP to predict impairment by nutrients. This is an appropriate method, supported by data, to accomplish this objective at this time.

Response: EPA is not finalizing the nutrient TMDL at this time.